

60,130-1118
01MRA0235REMARKSSpecification

The Examiner objected to the specification based on the informality of "road" instead of "load." Applicant has addressed this concern. Therefore, the specification is no longer objectionable.

Claim Rejections - 35 U.S.C. §102

The Examiner rejected claim 18 under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,091,679 to *Murty, et al.* *Murty, et al.*, however, fails to disclose "generating electromagnetic energy from the movement of the magnetized plunger" and "selectively storing the electromagnetic energy based on an amount of movement of the wheel." As acknowledged by the Examiner, *Murty, et al.* does not show a magnetized plunger generating electromagnetic energy from the plunger's movement. Also, *Murty, et al.* stores energy based on the direction of movement of the actuator not on the amount of movement of the wheel. For these reasons, claim 18 is in condition for allowance.

Claim Rejections - 35 U.S.C. §103

The Examiner rejected claims 2, 3, 5-7, 13-15 and 21 pursuant to 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,091,679 to *Murty, et al.* in view of JP-4300709. The Examiner acknowledges that *Murty, et al.* fails to teach a magnetized plunger and coil as required by the foregoing claims and seeks to supply these missing elements through JP-4300709. Alternatively, the Examiner relies on JP-4300709 in view of *Murty, et al.* There is, however, no teaching, suggestion or motivation for their

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combination. As a preliminary matter, it is improper for the Examiner to rely on an untranslated reference. In *Ex parte Gavin*, 62 USPQ 2d 1680 (BPAI 2001), the Examiner sought to use an English-language abstract from a Japanese patent to reject the claims of *Gavin's* application. The Board reversed, saying that the Examiner must provide an English-language translation of the entire patent or remove it as a reference. The Board further indicated that an abstract rarely fully describes an invention as claimed, and even if it did, no one could be sure without an examination of the specification. See *Ex parte Gavin*, 62 USPQ 2d 1680 (BPAI 2001). Similarly, the Examiner in this case seeks to use an English-language abstract as a basis for his rejection. Apparently, the Examiner also relies upon an uncertified translation of a portion of the specification. Neither of these translations is acceptable in view of *Ex parte Gavin*. Consequently, the reliance upon JP-4300709 as a basis for the rejection is improper.

In addition, the Examiner apparently relies upon two motivations for the combination. First, the Examiner contends that it would have been obvious to one of ordinary skill in the art to have modified the magnetic element and coil assembly of *Murty, et al.* to have included a magnetic plunger and coil assembly, as taught by JP-4300709, "to provide a simpler shock absorber apparatus that eliminates the need for a rotary-to-linear converter." [Final Office Action (1-12-04), p.4]. Such motivation cannot be found in *Murty, et al.* or the English-translated portion of JP-4300709. Moreover, *Murty, et al.* teaches away from a magnetic plunger modification as the following passage demonstrates:

One of the important parameters, the relative sprung mass/unsprung mass velocity, which is used in most such algorithms, can be determined from the dynamoelectric machine....This is an important advantage in an active suspension system, since (1) the relative sprung/unsprung mass velocity is

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a very important input to a vehicle suspension control, (2) inexpensive velocity sensors are not generally available, and (3) the accurate derivation of a relative sprung/unsprung mass velocity from a position sensor by differentiation is not a simple matter, but introduces additional difficulties and/or expense.

[*Murty, et al.*, column 8, l.43 - column 9, l.25]. (Emphasis added).

Hence, replacing the dynamoelectric machine of *Murty, et al.* with a simple plunger and coil will defeat an objective of *Murty, et al.* For this reason, the combination is improper.

The Examiner alternatively seeks to combine JP-4300709 in view of *Murty, et al.* The Examiner notes, however, that JP '709 does not include the limitation of a battery in communication with the circuit. The Examiner contends that this combination is proper "to provide a means of energizing the conductive coil as taught by *Murty, et al.*, in col. 5 lines 52-55." [Final Office Action (1/12/04), p.5]. However, the Examiner fails to explain how the battery of *Murty, et al.* would energize the conductive coil of JP '709. Specifically, the Examiner does not explain how the DC voltage of a battery would successfully create a magnetic force in the coil of JP '709. For this additional reason, the combination of these references is improper. Therefore, claims 2, 3, 5-7, 13-15 and 21 are in condition for allowance.

Claims 7 and 15 require "said circuit comprises a switching circuit." The Examiner contends that this feature is shown by Figure 4 of *Murty, et al.* However, the circuit referred to as circuit 20, 22, 24, 26, 28, 30 is identified as a bridge, not a switching circuit. [*Murty, et al.*, column 5, ll. 56-61]. Moreover, element 16 of JP-4300709 is not identified in the abstract as a switching circuit. Accordingly, claim 7 and 15 stand in condition for allowance.

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Claims 8 and 16 require further that "said switching circuit includes a field effect transistor." The Examiner seeks to supply this missing element with the field effect transistor of *McGee*. However, there is no suggestion, motivation or teaching of this combination in the cited references. Indeed, the field effect transistor of *McGee* is not used to drive a magnetic plunger but instead is driven by the magnetic plunger to create a signal to analyze the amount of displacement of the plunger. [See, *McGee*, column 2, ll. 38-45]. Accordingly, *McGee* does not teach the use of a field effect transistor to drive a conductive coil. Moreover, there is no reasonable probability of success of using the field effect transistor of *McGee* to drive as an active suspension element the coil of JP '709. For these reasons, claims 8 and 16 are in condition for allowance.

Claim 9 requires in pertinent part, "said switching circuit switches at a higher frequency than the frequency of movement of said magnetized plunger." The Examiner contends that this feature is shown by the combination of JP-4300709 in view of U.S. Patent No. 6,005,316 to *Harris*. The Examiner contends that *Harris* teaches the cited feature of claim 9. In the reference portion of *Harris* identified by the Examiner as support for his position, there is no mention of a switching circuit switching at a higher frequency than the frequency of movement of a magnetized plunger. Indeed, the cited passage refers to "active magnetic bearings" which are "used to suspend shafts of rotating equipment subject to load spectra which vary with respect to time." [*Harris*, column 1, ll. 16-19]. Accordingly, the combination of JP-4300709 and *Harris* does not teach all of the limitations of claim 9. For this reason alone, claim 9 is in condition for allowance.

In addition, the combination is improper. The Examiner contends that motivation exists to combine JP '709 with *Harris*, "to provide a means of accurately controlling the

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position of the magnetized plunger to assist in carrying out the active suspension control function." This so-called motivation, however, is not to be found in the cited references. It also makes little sense because *Harris* does not involve magnetized plungers but, in fact, involves magnetic bearings. For this reason, claim 9 is in condition for allowance.

Claim 10, which depends upon claim 9, requires "wherein a control senses movement of said vehicle support and selectively actuates said coil when it is desired to resist movement of said vehicle support." The Examiner identifies element 16 of JP '709 as such a control without citing to any translated portion of this reference. It is improper for the Examiner to rely on this untranslated portion of the Japanese reference. For this reason, claim 10 is in condition for allowance.

For the reasons stated above, claims 2-3, 5-10, 13-18 and 21 are in condition for allowance.

Applicant believes that no additional fees are necessary, however, the Commissioner is authorized to charge Deposit Account No. 50-1482 in the name of Carlson, Gaskey & Olds for any additional fees or credit the account for any overpayment.

Respectfully submitted,

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